

In re Application of: Peter ASSAF et al
 Serial No.: 10/555,664
 Filed: November 4, 2005
 Office Action Mailing Date: October 7, 2008

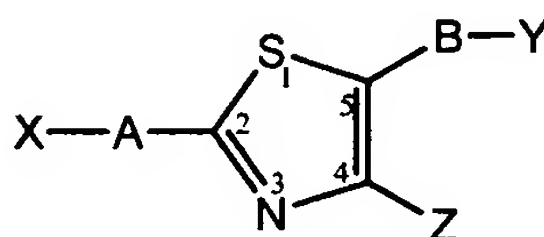
Examiner: Sun Jae Y. Loewe
 Group Art Unit: 1626
 Attorney Docket: 30724

In the claims:

Please amend the claims as follows:

1-5. (Canceled)

6. (Currently amended) An NO-donating compound having the general formula I:



Formula I

wherein:

A is selected from the group consisting of alkyl, amine, aryl, C-amide, carbonyl, hydrazine, N-amide and any combination thereof, or absent;

X is a heteroaryl selected from the group consisting of benzodioxole, benzothiophene, diazole, dithiolane, furan, imidazole, indole, phthalazine, piperidine, pyrazine, pyrazole, pyridine, pyridinyl, pyrimidine, pyrrolidine, quinoline, thiadiazole, thiazole and thiophene;

B is an ethylene chain;

Y is -ONO₂; and

Z is methyl;

~~the compound being such that when NO is released from the compound a residue which is a naturally occurring metabolite is formed, thereby decreasing a development of tolerance to the NO donating compound upon repetitive administration thereof.~~

7-16. (Canceled)

17. (Previously presented) The NO-donating compound of claim 6, wherein said heteroaryl is pyridine.

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18-31. (Canceled)

32. (Previously presented) The NO-donating compound of claim 6, being selected from the group consisting of:

3-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazole-2-yl]-pyridine (**Pet-12**);

2-Chloro-3-[4-methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-6-trifluoromethyl-pyridine (**Pet-18**);

Diethyl-{3-[4-methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyridin-4-yl}-amine (**Pet-19**);

2-Methyl-5-[4-methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyridine (**Pet-20**);

3-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyridine 1-oxide (**Pet-21**);

5-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-2-trifluoromethyl-pyridine (**Pet-22**);

2-Methoxy-6-[4-methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyrazine (**Pet-23**);

Methyl-{6-[4-methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyrazin-2-yl}-amine (**Pet-24**);

2-Ethyl-4-[4-methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyridine 1-oxide (**Pet-25**);

5-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-2-trifluoromethyl-pyridine 1-oxide (**Pet-26**);

3-(4-Amino-2-methyl-pyrimidin-5-ylmethyl)-4-methyl-5-(2-nitrooxy-ethyl)-thiazol-3-ium; chloride (**Pet-68**);

2-Furan-2-yl-4-methyl-5-(2-nitrooxy-ethyl)-thiazole (**Pet-69**);

4-Methyl-5-(2-nitrooxy-ethyl)-2-thiophen-2-yl-thiazole (**Pet-71**);

2-Benzo[b]thiophen-2-yl-4-methyl-5-(2-nitrooxy-ethyl)-thiazole (**Pet-72**);

[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyridin-3-ylmethyl-amine (**Pet-80**);

4-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyridine (**Pet-81**);

2-(3,5-Dimethyl-pyrazol-1-yl)-4-methyl-5-(2-nitrooxy-ethyl)-thiazole (**Pet-83**);

5-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-1H-imidazol-4-ylamine (**Pet-84**);

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4-Methyl-5-(2-nitrooxy-ethyl)-2-thiophen-2-ylmethyl-thiazole (**Pet-86**);
 4-Methyl-5-(2-nitrooxy-ethyl)-2-(1-thiophen-2-yl-ethyl)-thiazole (**Pet-87**);
 [4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-thiophen-2-yl-methanone (**Pet-88**);
 4-Methyl-5-(2-nitrooxy-ethyl)-2-(nitrooxy-thiophen-2-yl-methyl)-thiazole (**Pet-95**);
 2-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyrazine (**Pet-125**);
 2-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyrazine 4-oxide (**Pet-126**);
 2-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyrazine 1,4-dioxide (**Pet-127**);
 2-Ethyl-5-[4-methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-pyridine (**Pet-144**);
 4-Methyl-5-(2-nitrooxy-ethyl)-thiazole-2-carboxylic acid N'-phthalazin-1-yl-hydrazide (**Pet-153**);
 N-[4-methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-nicotinamide (**Pet-154**);
 N-[4-methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-1-oxy-nicotinamide (**Pet-156**);
 4-Methyl-5-(2-nitrooxy-ethyl)-thiazole-2-carboxylic acid pyridin-3-ylamide (**Pet-170**);
 3-[4-Methyl-5-(2-nitrooxy-ethyl)thiazol-2-ylmethyl]-1H-indole (**Pet-172**);
 [4-Methyl-5-(2-nitrooxy-ethyl)-2-yl]-pyridin-4-yl-amine (**Pet-174**); and
 4-{4-[4-Methyl-5-(2-nitrooxy-ethyl)-thiazol-2-yl]-phenyl}-[1,2,3]thiadiazole (**Pet-178**).

33. (Previously presented) A pharmaceutical composition comprising, as an active ingredient, the NO-donating compound of claim 6 and a pharmaceutically acceptable carrier.

34-64. (Canceled)

65. (Previously presented) A medical device comprising the NO-donating compound of claim 6 and a delivery system configured for delivering said NO-donating compound to a bodily site of a subject.

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66. (Original) The medical device of claim 65, wherein said NO-donating compound forms a part of a pharmaceutical composition, said pharmaceutical composition further comprising a pharmaceutically acceptable carrier.

67. (Original) The medical device of claim 65, wherein said delivering is effected by inhalation.

68. (Original) The medical device of claim 67, wherein said delivery system is selected from the group consisting of a metered dose inhaler, a respirator, a nebulizer inhaler, a dry powder inhaler, an electric warmer, a vaporizer, an atomizer and an aerosol generator.

69. (Original) The medical device of claim 65, wherein said delivering is effected transdermally.

70. (Original) The medical device of claim 69, wherein said delivery system is selected from the group consisting of an adhesive plaster and a skin patch.

71. (Original) The medical device of claim 65, wherein said delivering is effected topically.

72. (Original) The medical device of claim 71, wherein said delivery system is selected from the group consisting of an adhesive strip, a bandage, an adhesive plaster, a wound dressing and a skin patch.

73. (Original) The medical device of claim 65, wherein said delivering is effected by implanting the medical device in a bodily organ.

74. (Original) The medical device of claim 73, wherein said delivery system is selected from the group consisting of an aortic aneurysm graft device, an atrioventricular shunt, a catheter, a defibrillator, a heart valve, a hemodialysis catheter, a hemodialysis graft, an indwelling arterial catheter, an indwelling venous catheter, a

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needle, a pacemaker, a pacemaker lead, a patent foramen ovale septal closure device, a stent, a stent graft, a suture, a synthetic vascular graft, a thread, a tube, a vascular anastomosis clip, a vascular aneurysm occluder, a vascular clip, a vascular prosthetic filter, a vascular sheath and a drug delivery port, a venous valve and a wire.

75. (Original) The medical device of claim 73, wherein said organ is selected from the group consisting of a pulmonary cavity, a blood vessel, an artery, a vein, a capillary, a heart, a heart cavity and a visceral organ.